

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated May 2, 2006 has been received and its contents carefully reviewed.

By this Response, claims 18 and 28 have been amended. No new matter has been added. Claims 18-41 are pending in the application. Reconsideration and withdrawal of the rejections in view of the above amendments and the following remarks are respectfully requested.

In the Office Action, claims 18-21, 23-29, 31-36 and 39-41 are rejected under 35 U.S.C. § 1039a) as being unpatentable over U.S. Patent No. 6,649,934, issued to Song et al. (hereafter "US '934") in view of U.S. Patent No. 5,990,986, issued to Song, et al. (hereafter "US '986") and U.S. Patent No. 6,577,368, issued to Yuh et al. (hereafter "Yuh"). Applicant respectfully traverses the rejection because neither US '934, US '986 nor Yuh, analyzed alone or in any combination, teaches or suggests the combined features recited in the claims of the present application. For example, US '934, US '986 and Yuh fail to teach "source or drain electrodes being connected with a portion of the pixel electrode on the buffer layer, wherein the connection is at an overlap of the source or drain electrodes and an end portion of the buffer layer" and "a passivation layer on the entire surface of the substrate including the pixel electrode", as recited in independent claim 1 of the present application.

US '934, US '986 and Yuh further fail to teach a method for manufacturing an in-plane switching mode liquid crystal display (LCD) that includes "forming a source electrode or a drain electrode on a portion of the pixel electrode on the buffer layer, the source or drain electrodes being connected with the pixel electrode at an overlap of the source or drain electrodes and an end portion of the buffer layer" and "forming a passivation layer on the entire surface of the substrate including the pixel electrode" as recited in independent claim 28 of the present application.

The Office Action concedes, on page 3, that US '934 fails to teach "a buffer layer formed on the ohmic contact layer and a common electrode on the passivation layer substantially

parallel to the pixel electrode”. Applicant notes US ‘934 also fails to teach “a pixel electrode on the buffer layer”, as recited in the claims of the present application. In fact, the Office Action states, on page 6 with regard to FIG. 11, that “the ohmic contact layer 56 is completely overlapped by the pixel electrode and the drain electrode”. Applicant further notes the pixel electrode 63 does not completely overlap the ohmic contact layer 56. The US ‘934 specification teaches “a plurality of pixel electrodes 63 connected to the drain electrodes 66 and 76... the drain electrode 66 and 76 have a double-layered structure” (see, col. 13, lines 7-13). Thus, Applicant submits even if the buffer layer 51 of US ‘986 were used to modify US ‘934, which Applicant does not concede there is proper motivation to do, the addition of the buffer layer on the ohmic contact layer 56 would continue to fail to meet the recited limitations of the claims of the present application. Specifically, using FIG. 11 of US ‘934 as a reference, the pixel electrode 63 would not be on the buffer layer, the drain electrodes 66 and 76 would not be connected with a portion of the pixel electrode 63 on the buffer layer, wherein the connection is at an overlap of the drain electrode 66 and 76 at an end portion of the buffer layer.

Additionally, Applicant notes the claims of the present application recite “a passivation layer on the entire surface of the substrate including the pixel electrode”. However, US ‘986 discloses “the rest portion 62 covers the portion 52 of the buffer layer , and extends and enlarges to form a passivation electrode 63. A passivation film 70 is formed thereon except the pixel electrodes” (emphasis added, col. 3, lines 56-59). Thus, Applicant submits US ‘986 fails to teach “a passivation layer on the entire surface of the substrate including the pixel electrode” as recited in the claims of the present application.

With regard to US ‘934 lacking the teachings of “a common electrode on the passivation layer substantially parallel to the pixel electrode”, the Office Action relies upon figures 1 and 2 of Yuh. Yuh discloses “a planar electrode 2 made of transparent conductive material such as indium tin oxide (ITO) is formed on the inner surface of a lower substrate 100 made of a transparent insulating material such as glass or quartz... The planar electrode 2 is covered with an insulating film 3, and a plurality of narrow linear electrodes 1 which are parallel to each other and elongated in the longitudinal direction are formed on the insulating film 3” (see, col. 6, lines 45-54). Applicant submits this teaching of a fringe field switching (FFS) structure would fail to provide proper motivation to one of ordinary skill in the art to modify the

device of US '934 to provide "a common electrode on the passivation layer substantially parallel to the pixel electrode". Further, even if the teaching of the common electrode on the passivation layer were used to modify US '934, the resulting combination would fail to teach all of the combined features recited in the claims of the present application. Specifically, the resulting combination would fail to teach "source or drain electrodes being connected with a portion of the pixel electrode on the buffer layer, wherein the connection is at an overlap of the source or drain electrodes and an end portion of the buffer layer" and "a passivation layer on the entire surface of the substrate including the pixel electrode", as recited in independent claim 1 of the present application.

The resulting combination would also fail to teach a method for manufacturing an in-plane switching mode liquid crystal display (LCD) device that includes, among other features, "forming a source electrode or a drain electrode on a portion of the pixel electrode on the buffer layer, the source or drain electrode being connected with the pixel electrode at an overlap of the source or drain electrodes and an end portion of the buffer layer" and "forming a passivation layer on the entire surface of the substrate including the pixel electrode", as recited in independent claim 28 of the present application.

Because no combination of US '934, US '986 and Yuh teaches the combined features of independent claims 1 and 28, independent claim 1 and its dependent claims 19-21 and 23-27, and independent claim 28 and its dependent claims 29, 31-36 and 39-41 are allowable over any combination of US '934, US '986 and Yuh. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 22, 30, 37 and 38 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US '934, US '986, Yuh and further in view of U.S. Patent No. 6,529,251, issued to Hibino et al. (hereafter "Hibino"). Applicant respectfully traverses the rejection because neither US '934, US '986, Yuh nor Hibino, analyzed alone or in any combination teaches "source or drain electrodes being connected with a portion of the pixel electrode on the buffer layer, wherein the connection is at an overlap of the source or drain electrodes and an end portion of the buffer layer" and "a passivation layer on the entire surface of the substrate including the pixel electrode", as recited in independent claim 1, from which claim 22 depends.

US '934, US '986, Yuh and Hibino further fail to teach a method for manufacturing an in-plane switching mode liquid crystal display (LCD) device that includes “forming a source electrode or a drain electrode on a portion of the pixel electrode on the buffer layer, the source or drain electrodes being connected with the pixel electrode at an overlap of the source or drain electrodes and an end portion of the buffer layer” and “forming a passivation layer on the entire surface of the substrate including the pixel electrode”, as recited in independent claim 28, from which claims 30, 37 and 38 depend.

The Office Action relies upon the teachings of Hibino “for teaching a buffer layer including titanium” (page 7 of Office Action). However, Applicant respectfully submit Hibino fails to remedy the deficient teachings discussed above with respect to US '934, US '986 and Yuh. Specifically, Hibino fails to teach “source or drain electrodes being connected with a portion of the pixel electrode on the buffer layer, wherein the connection is at an overlap of the source or drain electrodes and an end portion of the buffer layer” and “a passivation layer on the entire surface of the substrate including the pixel electrode”, as recited in independent claim 1, from which claim 22 depends.

Hibino further fails to remedy the deficient teachings of US '934, US '986 and Yuh to provide a method for manufacturing an in-plane switching mode liquid crystal display device that includes “forming a source electrode or a drain electrode on a portion of the pixel electrode on the buffer layer, the source or drain electrodes being connected with the pixel electrode at an overlap of the source or drain electrodes and an end portion of the buffer layer” and “forming a passivation layer on the entire surface of the substrate including the pixel electrode”, as recited in independent claim 28, from which claims 30, 37 and 38 depend.

Because Hibino fails to teach at least the above features of independent claims 1 and 28, Hibino fails to remedy the deficient teachings of US '934, US '986 and Yuh. As such, no combination of US '934, US '986, Yuh and Hibino would provide the combined feature recited in independent claim 1 and its dependent claim 22, and independent claim 28 and its dependent claims 30, 37 and 38. Reconsideration and withdrawal of the rejection respectfully requested.

Applicant believes the foregoing amendments and remarks place the application in condition for allowance and early, favorable action is respectfully solicited.

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Amendment dated July 31, 2006
Reply to Office Action dated May 2, 2006

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If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: July 31, 2006

Respectfully submitted,

By Valerie P. Hayes

Valerie P. Hayes

Registration No.: 53,005

McKENNA LONG & ALDRIDGE LLP

1900 K Street, N.W.

Washington, DC 20006

(202) 496-7500

Attorneys for Applicant